

Planet Kingdom MCQ Question Answer

Visit <https://competitive-exam.in> for more MCQ

Question: 1. The Natural system of classification for flowering plants was given by

- Option A. Carolus Linnaeus
- Option B. Bentham and Hooker
- Option C. Engler and Prantl
- Option D. R. H. Whittaker

Question: 2. Phylogenetic classification system is based on the

- Option A. morphological characters of various organisms.
- Option B. anatomical characters of various organisms.
- Option C. physiological characters of various organisms.
- Option D. evolutionary relationships between the various organisms.

Question: 3. Cytological information like chromosome number, structure, behaviour are related with

- Option A. numerical taxonomy
- Option B. cytotaxonomy
- Option C. chemotaxonomy
- Option D. all of the above

Question: 4. Flagellate isogametes and anisogametes are found in

- Option A. Spirogyra
- Option B. Fucus
- Option C. Volvox
- Option D. Chlamydomonas

Question: 5. Fusion of two gametes which are dissimilar in size is termed as _____.

- Option A. isogamous
- Option B. oogamous
- Option C. anisogamous
- Option D. agamous

Question: 6. Algin, carrageen and proteins are obtained from

- Option A. red algae, brown algae, green algae respectively.
- Option B. brown algae, red algae, green algae respectively.
- Option C. red algae, green algae, brown algae respectively.
- Option D. green algae, brown algae, red algae respectively.

Question: 7. Which of the following class of algae is rarely found in fresh water ?

- Option A. Chlorophyceae

- Option B. Phaeophyceae
- Option C. Rhodophyceae
- Option D. Both (a) and (b)

Question: 8. Which of the following class of algae is mostly found in salt water ?

- Option A. Phaeophyceae
- Option B. Rhodophyceae
- Option C. Chlorophyceae
- Option D. Both (a) and (b)

Question: 9. What is the number and position of insertions of flagella in rhodopyceae class of algae ?

- Option A. 2 - 8, equal, apical
- Option B. 2, unequal, lateral
- Option C. 2 - 6, equal, lateral
- Option D. Absent

Question: 10. In class phaeophyceae, the plant body is usually attached to the substratum by a A and has a stalk, the B and leaf like photosynthetic organ-the C .

- Option A. A holdfast, B stipe, C frond
- Option B. A stipe, B holdfast, C frond
- Option C. A frond, B stipe, C holdfast
- Option D. A stipe, B frond, C holdfast

Question: 11. Which of the following groups of plants play an important role in plant succession on bare rocks/soil ?

- Option A. Algae
- Option B. Bryophytes
- Option C. Pteridophytes
- Option D. Gymnosperms

Question: 12. _____ represent the reproductive organs amongst gymnosperms.

- Option A. Prothallus
- Option B. Capsules
- Option C. Setae
- Option D. Cones

Question: 13. In bryophytes, male and female sex organs are called _____ and _____ respectively.

- Option A. microsporangia; macrosporangia
- Option B. male strobili; female strobili
- Option C. antheridia; archegonia
- Option D. androecium; gynoecium

Question: 14. Laminaria (Kelp) and Fucus (Rock weed) are examples of

- Option A. green algae
- Option B. brown algae
- Option C. red algae
- Option D. golden brown algae

Question: 15. Pyrenoids in green algal cells are related to

- Option A. starch formation
- Option B. protein storage
- Option C. general metabolism
- Option D. enzyme secretion

Question: 16. The heterosporous pteridophyte belonging to the class lycopsida is

- Option A. Selaginella
- Option B. Psilotum
- Option C. Equisetum
- Option D. Pteris

Question: 17. Which of the following pteridophytes belong to class pteropsida?

- Option A. Equisetum and Psilotum
- Option B. Lycopodium and Adiantum
- Option C. Selaginella and Pteris
- Option D. Pteris and Adiantum

Question: 18. Cycas and Adiantum resemble each other in having

- Option A. seeds
- Option B. motile sperms
- Option C. cambium
- Option D. vessels

Question: 19. Protonema and leafy stage are the predominant stage of the life cycle of

- Option A. moss
- Option B. dicots
- Option C. liverwort
- Option D. gymnosperm

Question: 20. Which one of the following is a correct statement?

- Option A. Pteridophyte gametophyte has a protonemal and leafy stage.
- Option B. In gymnosperms, female gametophyte is free-living.
- Option C. Antheridiophores and archegoniophores are present in pteridophytes.
- Option D. Origin of seed habit can be traced in pteridophytes.

Question: 21. Why rhodophyta exhibit a red colour ?

- Option A. Since most rhodophyta grow at great depths, the chlorophyll can only absorb light in the red area of the spectrum.
- Option B. The wavelengths of light that are absorbed by chlorophyll are passed to phycoerythrin (a red pigment).
- Option C. Red pigment of rhodophyta absorbs all the light waves.
- Option D. The light reaching the greatest depth in water is in the blue-green region of the spectrum, is absorbed by phycoerythrin.

Question: 22. Which of the following statement is incorrect ?

- Option A. Double fertilization is unique to gymnosperms and monocotyledons.
- Option B. Sequoia, a gymnosperm, is one of the tallest tree species.
- Option C. Phaeophyceae members possess chlorophyll a, c, carotenoids and xanthophylls.
- Option D. Moss is a gametophyte which consists of two stages namely, protonemal stage and leafy stage.

Question: 23. Which one of the following is the major difference between mosses and ferns ?

- Option A. Ferns lack alternation of generation while mosses show the same.
- Option B. Mosses are facultative aerobes while ferns are obligate aerobes.
- Option C. Vascular bundles of ferns show xylem vessels while those of mosses lack it.
- Option D. Sporophytes of ferns live much longer as compared to the sporophytes of mosses.

Question: 24. What is the similarity between gymnosperms and angiosperms?

- Option A. Phloem of both have companion cells.
- Option B. Endosperm is formed before fertilization in both.
- Option C. Origin of ovule and seed is similar in both.
- Option D. Both have leaves, stem and roots.

Question: 25. Which one of the following term is correctly matched with their definition in Pinus ?

- Option A. Monoecious Male (microsporangiate) and female (megasporangiate) cones are produced on same plant.
- Option B. Monoecious Male and female sporophylls borne on same strobilus.
- Option C. Dioecious Male and female cones are produced on different plants.
- Option D. Monoecious Micro and megasporocarp develop on same plant.

Question: 26. Which of the following statement(s) is incorrect about mosses ?

- Option A. The predominant stage of its life cycle is the gametophyte which consists of two stages protonema and leafy stages.
- Option B. Leafy stage are attached to the soil through unicellular and branched rhizoids.
- Option C. Sex organs-antheridia and archegonia are produced at the apex of the leafy shoots.
- Option D. All of the above

Question: 27. Which of the following statement(s) is/are correct ?

- Option A. In angiosperms, each embryo sac has a three-celled egg apparatus one egg cell and two synergids, three antipodal cells and two polar nuclei.
- Option B. All seed bearing plants i.e., gymnosperms and angiosperms follow dipontic life patterns of plants.
- Option C. In gymnosperms, roots in some genera have fungal association in the form of mycorrhiza (Pinus) while in some others (Cycas) small specialized roots called coralloid are associated with N₂ fixing cyanobacteria.
- Option D. All of the above

Question: 28. Which one of the following statement concerning the algae is incorrect ?

- Option A. Most algae are photosynthetic.
- Option B. Algae can be classified according to their pigments.
- Option C. All algae are filamentous.
- Option D. Spirogyra does not produce zoospores.

Question: 29. Which of the following statements (i) - (v) are correct ?

- (i) In Equisetum, the female gametophyte is retained on the parent sporophyte.
- (ii) In Ginkgo, male gametophyte is not independent.
- (iii) The sporophyte in Riccia is more developed than that in Polytrichum.
- (iv) Sexual reproduction in Volvox is isogamous.

- Option A. Two
- Option B. Three
- Option C. Four
- Option D. One

Question: 30. Consider the following statements regarding gymnosperms and choose the correct option.

- (i) In gymnosperms, the male and female gametophytes have an independent existence.
- (ii) The multicellular female gametophyte is retained within the megasporangium.
- (iii) The gymnosperms are heterosporous. Of these statements

- Option A. (i) and (ii) are correct but (iii) is incorrect
- Option B. (i) and (iii) are correct but (ii) is incorrect
- Option C. (ii) and (iii) are incorrect but (i) is correct
- Option D. (ii) and (iii) are correct but (i) is incorrect

Answer Sheet

1	B	A natural system of classification for higher plants was given by Bentham and Hooker in their Genera Plantarum (1862 - 1883). The characters employed in this system include those of study of form (morphology), internal structure (anatomy), development (embryology), reproduction, cell structure (cytology), life processes, (physiology), behaviour and biochemistry.
2	D	Phylogenetic system of classification indicates the evolutionary as well as genetic relationships among organisms. It is based on fossil record, biochemical, anatomical, morphological, embryological, physiological, genetics, karyotype and other studies.

3	B	Cytotaxonomy is the classification of organisms based on cellular structure and function, especially on the structure and number of chromosomes.
4	D	Isogamous and anisogamous are flagellated gametes, found in Chlamydomonas. Fusion of flagellate gametes of similar size is called isogamous whereas fusion of two gametes of different size is called anisogamous.
5	C	Fusion of two gametes which are of dissimilar size is called anisogamous. Fusion of flagellate gametes of similar size is called isogamous. Oogamous is the fusion between one large, non - motile female gamete with a smaller, motile male gamete. Agamous does not involve the fusion of male and female gametes in reproduction.
6	B	Certain marine brown and red algae produce large amounts of hydrocolloids (water holding substances), e.g., algin (brown algae) and carrageen (red algae) which are used commercially. Chlorella and Spirulina are unicellular green algae, which are rich in proteins and used as food supplements even by space travellers.
7	B	The members of phaeophyceae or brown algae are found primarily in marine habitats. The common forms are Ectocarpus, Dictyota, Laminaria, Sargassum and Fucus.
8	B	Rhodophyceae are commonly called as red algae because of the predominance of the red pigment (r - phycoerythrin) in their body. They are mostly found in salt water.
9	D	Flagellate forms and stages are completely absent in class rhodophyceae (red algae).
10	A	In class phaeophyceae, the plant body is usually attached to the substratum by a holdfast (A), and has a stalk, the stipe (B) and leaf like photosynthetic organ - the frond (C).
11	B	Bryophytes play an important role in plant succession on base rocks/soil Bryophytes include the various mosses and liverworts that are found in moist shaded areas in the hills. Moss stage is the second stage in biological succession on a bare rock that slowly changes rocky substratum into fertile soil. Important members of moss stage are Tortula, Grimmia and Polytrichum.
12	D	In gymnosperms, the reproductive structures are mostly in the form of compact cones except female organs of Cycas. There are two types of sporophylls, usually segregated to form distinct cones or strobili (male and female cone).
13	C	In bryophytes, sex organs are of two types, male antheridium and female archegonium. They are multicellular and jacketed, i.e., covered by jacket of sterile cells.
14	B	Laminaria (kelp) and Fucus (rock weed) are the examples of brown algae. Brown algae are the common name of phaeophyceae. They are found primarily in marine habitats and show great variation in size and form.
15	A	Pyrenoids are the rounded bodies found in the chloroplast of green algae and are the centres of conversion of glucose to starch and also collection of starch.
16	A	Selaginella is a member of lycopsida, which produce two kinds of spores-macro (large) and micro (small) spores. Thus, known as heterosporous pteridophytes.
		Pteridophytes are classified into four classes : Psilopsida (Psilotum), Lycopsida

17	D	(Selaginella, Lycopodium), Sphenopsida (Equisetum) and Pteropsida (Dryopteris, Pteris, Adiantum).
18	B	Cycas (a gymnosperm) and Adiantum (known as Maiden hair fern, a pteridophyte) resemble each other in having motile sperms. Seeds, cambium are common in gymnosperms but absent in pteridophytes. True vessels are absent in both pteridophytes and gymnosperms.
19	A	The predominant stage of the moss is the presence of gametophyte which consists of two stages the first stage is protonema and the second stage is leafy stage. Protonema stage develops directly from the spores and leafy stage develops from the secondary protonema as a lateral bud.
20	D	Gametophyte of bryophytes bears protonemal & leafy stage. In gymnosperm female gametophyte is not free living. Antheridiophores and archegoniophores are present in Marchantia which is a bryophyte. Origin of seed habit started in pteridophyte.
21	B	Rhodophyta are commonly called as red algae because of the predominance of the red pigment (r phycoerythrin) in their body. They occur in both well lighted regions close to the surface of water and also at great depths in ocean where relatively little light penetrates. They exhibit a red colour because the wavelengths of light that are absorbed by chlorophyll are passed to phycoerythrin.
22	A	Double fertilization is a process, unique to flowering plants (angiosperms). The gymnosperms do not exhibit double fertilization or triple fusion like angiosperms.
23	D	In bryophytes, the dominant phase in the life cycle is the gametophytic plant body. However, in pteridophytes, the main plant body is a sporophyte. Which is differentiated into true root, stem and leaves. These organs possess well differentiated vascular tissues.
24	D	Gymnosperm have seeds that are not enclosed in an ovary. Angiosperms (also called flowering plant) have flowers and produce seeds enclosed within a carpel. The characteristics that differentiate angiosperms from gymnosperms include flowers, fruits, and endosperm in the seeds.
25	A	Monoecious is a plant species in which male (microsporangiate) and female (megasporangiate) organs are found on the same plant but in different flowers (for example maize). Dioecious plant is a plant species in which male and female organs appear on separate individuals.
26	D	Mosses are small flowerless plants that usually grow in dense green clumps or mats, in damp or shady locations.
27	D	
28	C	Algae are defined as chlorophyllous, thalloid a vascular plants with no cellular differentiation. The size and form of algae is highly variable. Not all the algae are filamentous. The size ranges from the microscope unicellular forms to colonial forms and to the filamentous forms.
29	A	Statement (i) and (ii) are correct. Riccia is liverwort in which simplest sporophyte consists of capsule only while Polytrichum is moss in which sporophyte consists of foot,

seta & capsule. Volvox is a fresh water green colonial alga. Reproduction is both sexual and asexual in volvox. Sexual reproduction is of oogamous type.

30

D

In gymnosperms, the male and female gametophytes never grow independently but develop within the sporophyte structures.